**Liang Chapter 6**

**Single-Dimensional Arrays**

**6.1 Introduction**

Array definition, double[] numbers = new double[NUMBER\_OF\_ELEMENTS];

**6.2 Array Basics**

Elements, index, declaring arrays, creating arrays, array size and default values, arrayName.length gives the size of a declared array, index starts at 0, initializing arrays, double[] myList = [1.9, 2.9, 3.4, 3.5}; (declares, creates and initializes)

Initializing arrays with input values, Initializing arrays with random values, Displaying arrays, Summing all elements, Finding the largest element, Finding the smallest index of the largest element, Random shuffling, simplifying code

For…each Loops – pg 229

**6.3 Case Study – Lotto Numbers**

**6.4 Case Study – Deck of Cards**

**6.5 Copying Arrays**

List2 = List1; doesn’t work as they are the same array and changes to one affects the other

Garbage collection, 3 ways to copy (loop to copy elements one by one, arraycopy method, clone method) – pg 237

**6.6 Passing Arrays to Methods**

Anonymous arrays, arrays passed to a method are changed outside of the method also (pass by sharing)

**6.7 Returning an Array from a Method**

Int[] list2 = reverse(list1);

**6.8 Case Study – Counting the Occurrences of Each Letter**

**6.9 Variable-Length Argument Lists**

**6.10 Searching Arrays**

Linear search, binary search,

**6.11 Sorting Arrays**

Selection sort, insertion sort

**6.12 Arrays Class**

Useful Array methods, (sort, equals, fill, toString, binarySearch(array, key)